

Work Order ID 112627

February-03-14, 9:07:19 AM

112627

Rev A 5, 4, 2, 11
PRELIMINARY ISSUE

Page 1

Item ID: D5017-1

Accept

N900040100

Setup Start *NS1*

Revision ID: PRELIM

Item Name: Support, 214 Fwd

Stop *NS2*

Start Date: 2/03/14 Start Qty: 4.00

4

Cust Item ID:

Required Date: 2/17/14 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: MCS Date: 14-02-03

Tooling:

Date:

Run Start *NR1*

QC: Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	DAS 27 3-89	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D5017

46 65A

100

0.00

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

Machine as per Folio FB248

Folio Rev: 4A

Dwg Rev: 4

Deburr

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

aml 14/02/07

4

0

aml 14/02/07

4

0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 112627

February-03-14 9:07:19 AM

112627

Page 2

Item ID: D5017-1
Revision ID: PRELIM
Item Name: Support, 214 Fwd

Accept

N900040100

Setup Start ***NS1***

Stop ***NS2***

Start Date: 2/03/14 Start Qty: 4.00 ***4***
Required Date: 2/17/14 Req'd Qty: 4.00 ***4***

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.00							
Quality Control									
130	Identify as per dwg & Stock Location: _____	0.00							
130									
Packaging	Memo	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

120

QC

Quality Control

130

130

Packaging

Packaging

140

140

QC

Quality Control

Set Up/
Run Hours

0.00

0.00

0.00

0.00

0.00

0.00

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

DAS

27

8-89

14/2/17

4

Inspect as per
Dwg A6

Per 14/2/13/4

14-02-18

POSITIVE RECALL

EFFECT 14-02-03

AUTH

DATE 14/02/14

ME 14-2-7

Release Dwg as
per Dwg Rev A

DQA:

Date: 14-2-24



QA Closed:

Date: 14-2-19

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: <u>112627</u>	DISPOSITION Rework <input checked="" type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS			
Part No. <u>05017-1</u>		Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>
NCR No. <u>14-3535</u>		Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>
		Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>
		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	<input checked="" type="checkbox"/>	125	1	ABRADE & add Layer of 3M 2216 B/A Adhesive. Allow cure 24 hrs	DAS 12 9-89	3m 2216 B/A B 118519	14/2/18	DAS 27 3-89	DAS 27 3-89
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input checked="" type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Picklist Print

February-03-14 9:07:24 AM

Page 1

Work Order ID: 112627

112627

Parent Item: D5017-1

D5017-1

Parent Item Name: Support, 214 Fwd

Start Date: 2/03/14

Required Date: 2/17/14

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV.A NEW ISSUE JFS 14/01/20 VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D5017-1TRN		Manufactured	No			100	Each	3.0000	1	4			

D5017-1TRN

**

Support, 214 Fwd

Location

Loc Qty

Loc Code

prelim

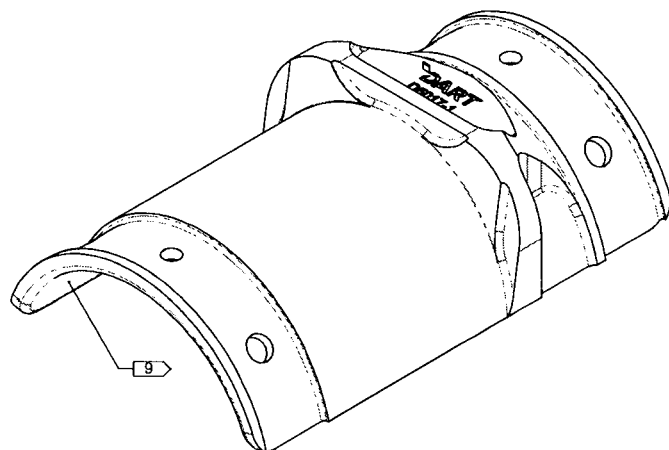
3

111721

3

112629 X 2

on 14/02/06



D5017-1 SUPPORT, 214 FWD

NOTES:

1) MATERIAL: 17-4PH STAINLESS STEEL, H900 OR H925 CONDITION
MIN UTS = 170 KSI (38 HRC)
REF DART SPEC. D6104

2) FINISH: NONE

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: DART LOGO AND P/N "D5017-1" IN THIS AREA WITH 0.125 HIGH X 0.010-0.020 DEEP LETTERING
PER DART QSI 044 6.3

7) WEIGHT: 0.88 lbs

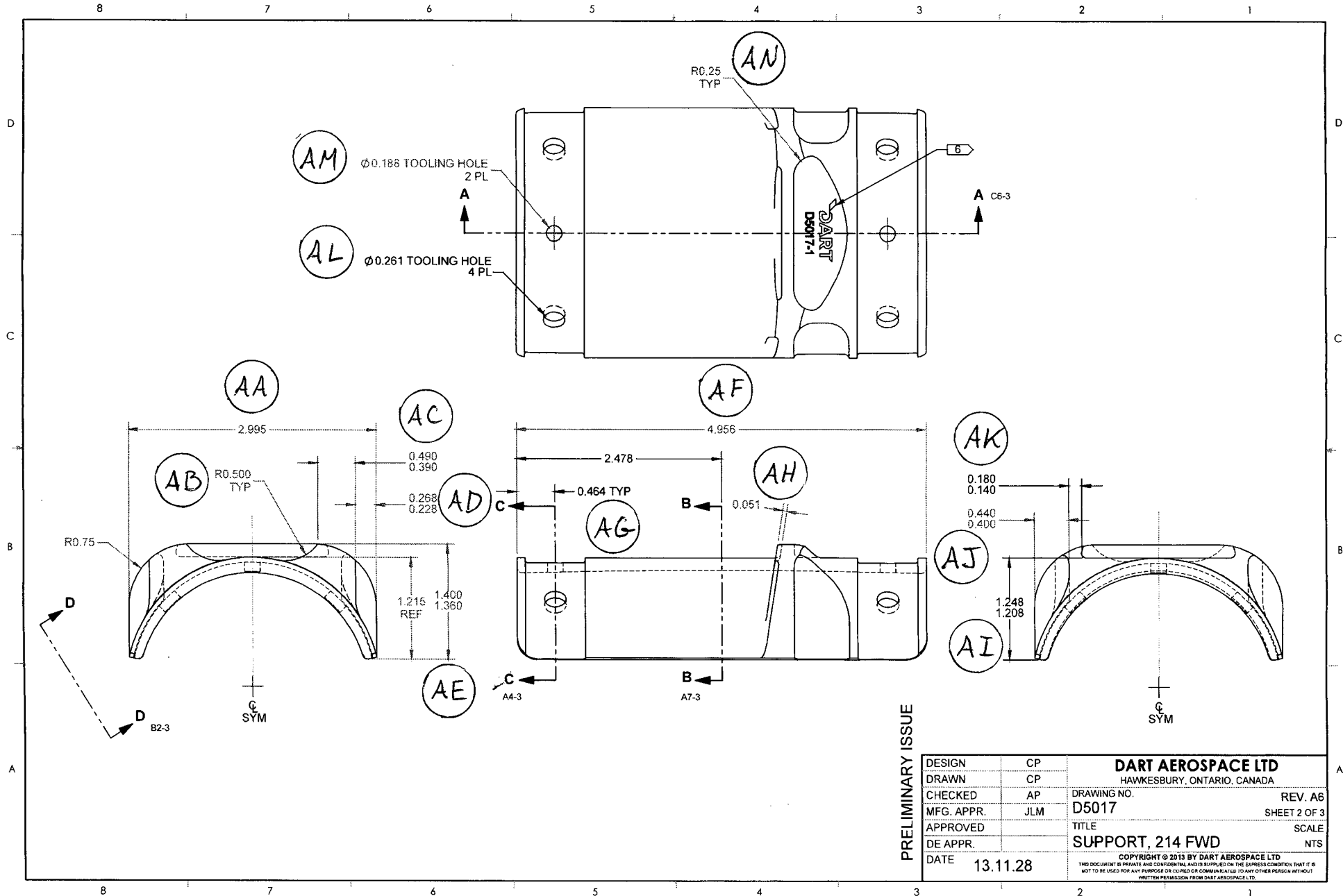
8) INNER CONCAVE SURFACE HAS A CONSTANT RADIUS OF R1.387 (REF) CUT ALONG AN R87.4 (REF) PATH (ie. TORUS SHAPE)

9) FOR ENTIRE INNER CONCAVE SURFACE: ABRASE SURFACE WITH 400-GRIT SANDPAPER. REMOVE RESIDUE WITH MEK (OR EQUIV.).
APPLY 0.03" TO 0.05" THICK LAYER OF 3M SCOTCH-WELD 2216 B/A ADHESIVE TO MATING SURFACE OF SUPPORT. ALLOW TO CURE
FOR 24 HOURS.

112627MWS
1402-03

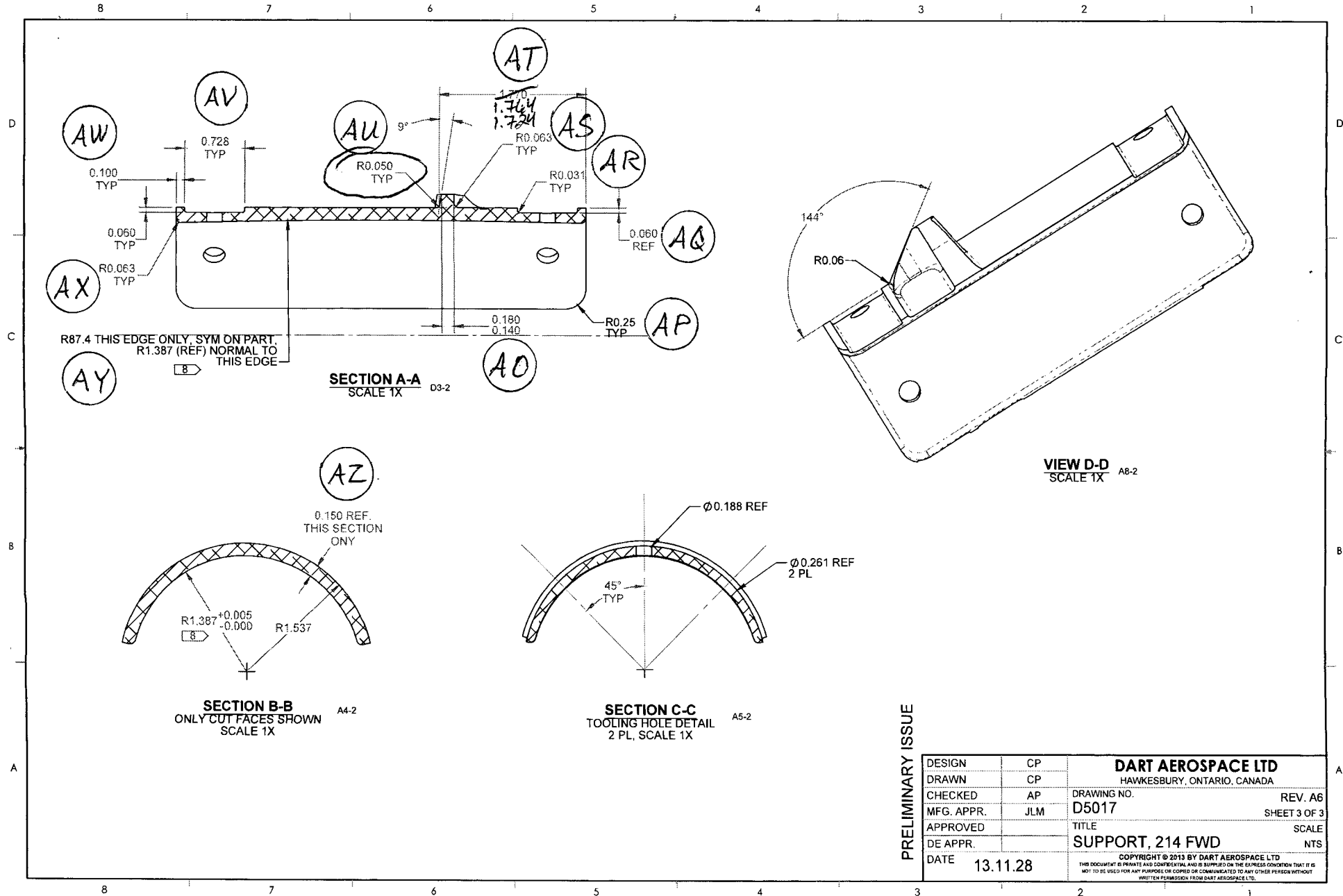
PRELIMINARY ISSUE

A	NEW ISSUE	CP	13.11.28
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	AP	DRAWING NO.	REV. A6
MFG. APPR.	JLM	D5017	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		SUPPORT, 214 FWD	NTS
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PRELIMINARY ISSUE

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DRAWN	CP		
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MFG. APPR.	JLM	D5017	SHEET 2 OF 3
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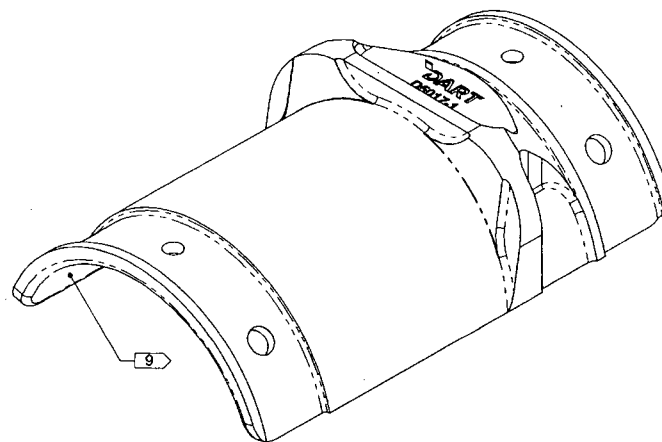
DART AEROSPACE LTD		Work Order: 112627
Description: Ø Support		Part Number: D5017-1
Inspection Dwg: D5017 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
HAAS Section								
AA	2.985	3.005		2.995	2.995	2.992	2.992	
AB	.490	.510		.500	.500	.500	.500	
AC	.390	.490		.490	.490	.455	.455	
AD	.228	.268		.240	.240	.240	.240	
AE	1.360	1.400		1.368	1.370	1.367	1.373	
AF	4.946	4.964		4.958	4.958	4.960	4.960	
AG	.454	.474		.464	.464	.465	.465	
AH	.041	.061		.050	.050	.053	.051	
AI	1.208	1.248		1.209	1.211	1.212	1.212	
AJ	.400	.440		.414	.421	.422	.421	
AK	.140	.180		.170	.170	.175	.160	
AL	.260	.267		.260	.260	.260	.260	
AM	.187	.193		.190	.190	.190	.190	
AN	.220	.280		.250	.250	.250	.250	
AO	.140	.180		.160	.160	.160	.162	
AP	.220	.280		.250	.250	.250	.250	
AQ	.050	.070		.060	.060	.060	.060	
AR	.021	.041		.031	.031	.031	.031	
AS	.053	.073		.063	.063	.063	.063	
AT	1.724	1.764		1.756	1.757	1.758	1.756	
AU	.040	.060		.050	.050	.050	.050	
AV	.718	.738		.723	.723	.723	.723	
AW	.090	.110		.103	.103	.103	.103	
AX	.053	.073		.063	.063	.063	.063	
AY	87.300	87.500		87.400	87.400	87.400	87.400	
AZ	.140	.160		.150	.151	.150	.152	
Ensure that Ø " bore is perpendicular to " bore within "								
Accept/Reject								

Measured by: <i>mx</i>	Date: 14/02/07
Audited by: DAS 27 9-89	Date: 14/2/17
Preliminary Approval:	Date:

Rev	Date	Change	Revised by	Approved
A	08.04.24	New Issue	KJ/JLM	
B	12.07.31	Prototype revised to preliminary	KJ	



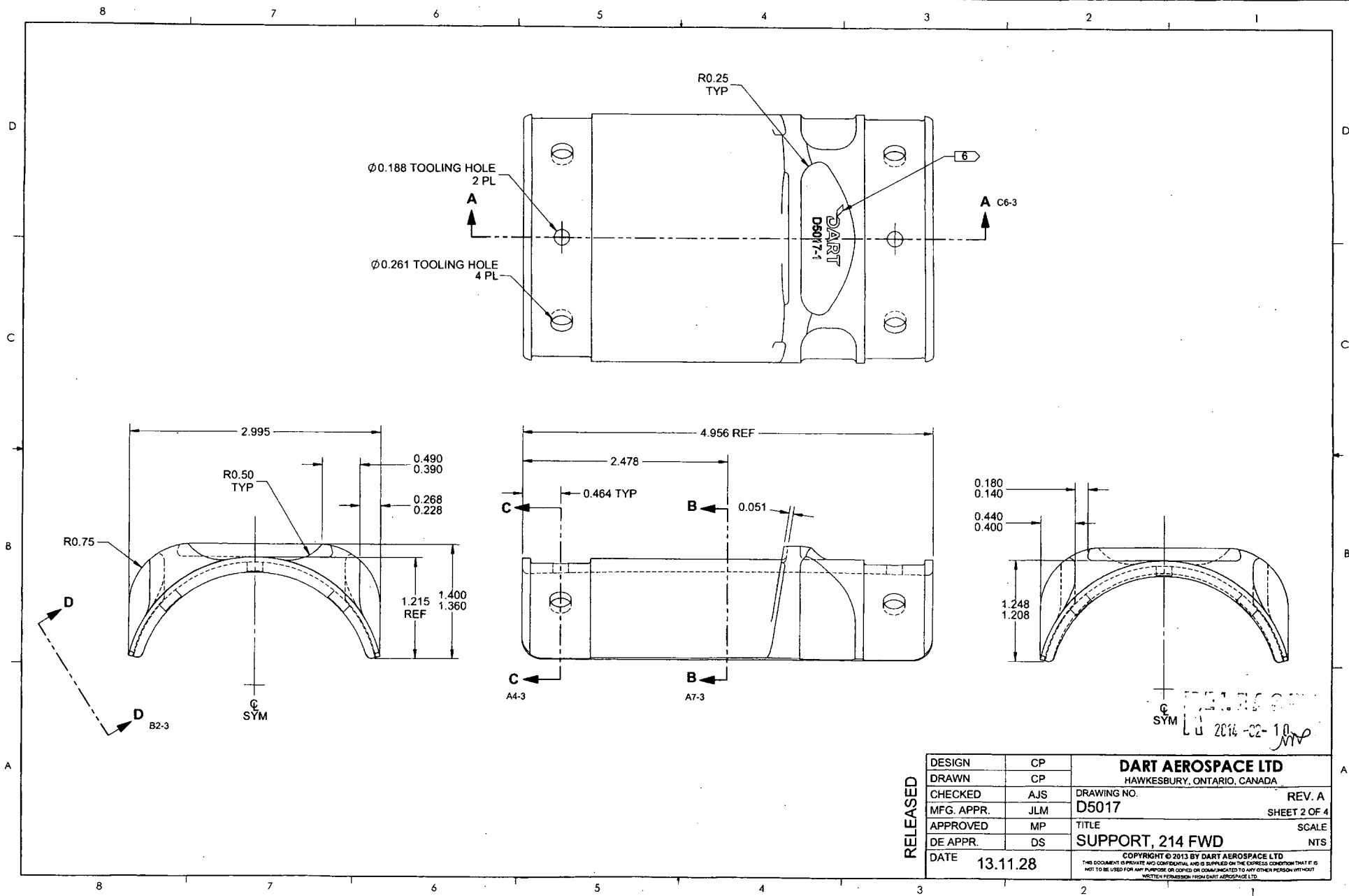
D5017-1 SUPPORT, 214 FWD

NOTES:

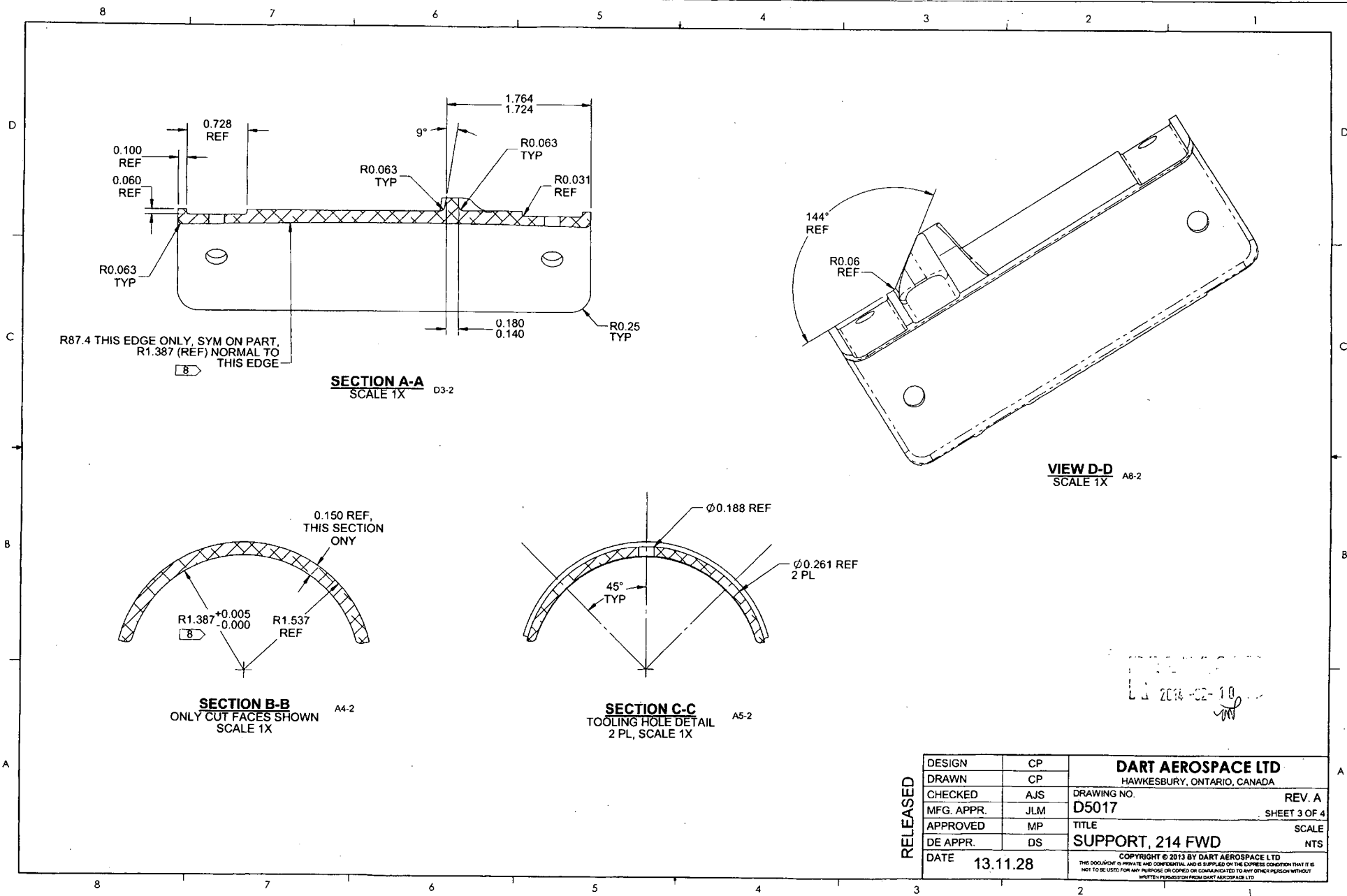
- 1) MATERIAL: MAKE FROM D5017-1TRN
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART LOGO AND P/N "D5017-1" IN THIS AREA WITH 0.125 HIGH X 0.010-0.020 DEEP LETTERING PER DART QSI 044 6.3
- 7) WEIGHT: 0.88 lbs
- 8) INNER CONCAVE SURFACE HAS A CONSTANT RADIUS OF R1.387 (REF) CUT ALONG AN R87.4 (REF) PATH (ie. TORUS SHAPE)
- 9) FOR ENTIRE INNER CONCAVE SURFACE: ABRASE SURFACE WITH 400-GRIT SANDPAPER. REMOVE RESIDUE WITH MEK (OR EQUIV.). APPLY 0.03" TO 0.05" THICK LAYER OF 3M SCOTCH-WELD 2216 B/A ADHESIVE TO MATING SURFACE OF SUPPORT. ALLOW TO CURE FOR 24 HOURS.

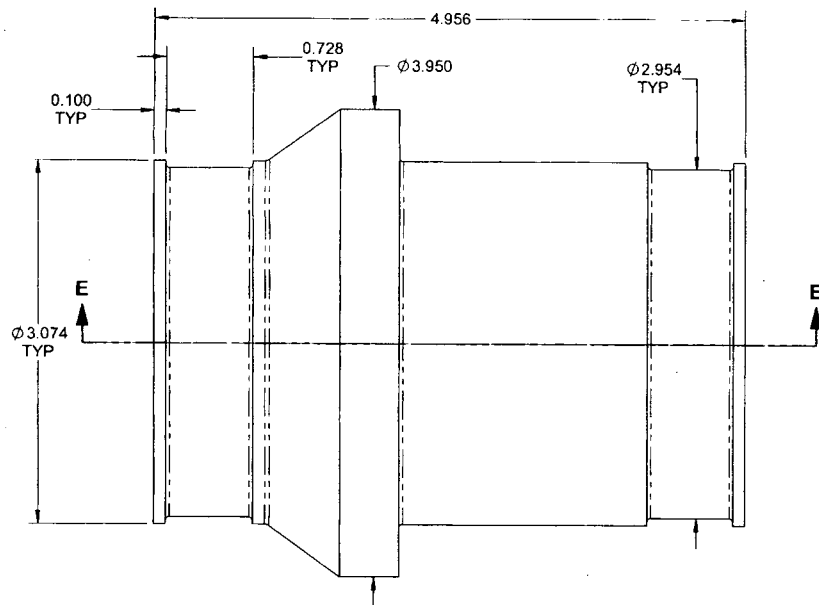
A		NEW ISSUE		CP	13.11.28	
REV.		DESCRIPTION			BY	DATE
DESIGN		CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN		CP				
CHECKED		AJS	DRAWING NO.		REV. A	
MFG. APPR.		JLM	D5017		SHEET 1 OF 4	
APPROVED		MP	TITLE		SCALE	
DE APPR.		DS	SUPPORT, 214 FWD		NTS	
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RELEASED

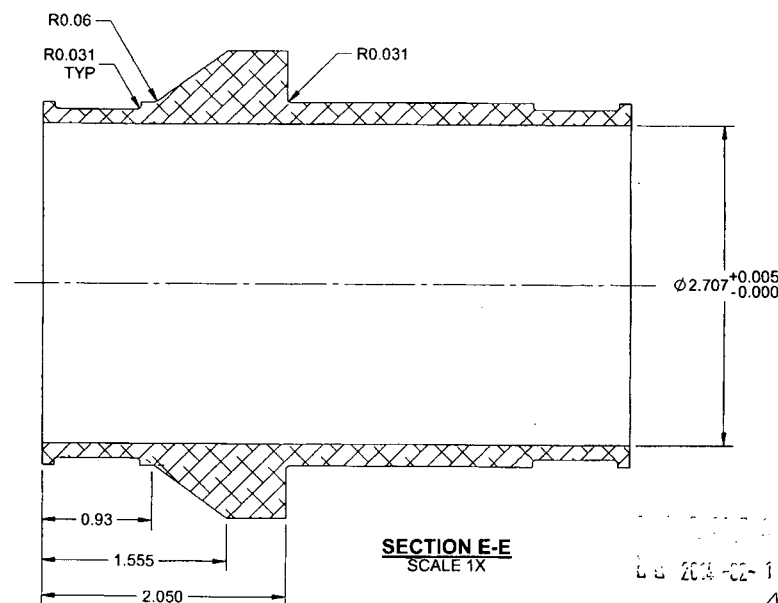
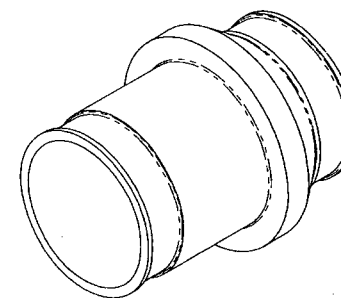


RELEASED	DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	CP		
	CHECKED	AJS	DRAWING NO.	REV. A
	MFG. APPR.	JLM	D5017	SHEET 2 OF 4
	APPROVED	MP	TITLE	SCALE
	DE APPR.	DS	SUPPORT, 214 FWD	NTS
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D5017-1TRN TURNING DETAIL



**SECTION E-E
SCALE 1X**

NOTES:

- 1) MATERIAL: 17-4PH STAINLESS STEEL, H900 OR H925 CONDITION
MIN UTS = 170 KSI (38 HRC)
REF DART SPEC. D6104
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: NONE
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 3.21 lbs

RELEASED

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	CP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. A
MFG. APPR.	JLM	D5017	SHEET 4 OF 4
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	SUPPORT, 214 FWD	NTS
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